



# Natural Disaster Assistance for Missouri Citizens

## Restoring Drinking Water

Department of Natural Resources fact sheet

6/2008

Contact your public water supply directly for further information and consult the local news media for notification when any health advisories have been issued or lifted. Your local water supplier has the most up-to-date information about problems in your area, such as broken water mains, low water pressure or any other possible sources of contamination. As long as adequate water pressure has been maintained through the flood, you should need only to flush your water pipes.

### Flushing Home Water Lines

1. The best and easiest way to begin flushing your water lines is to use a garden hose and wash off your driveway or patio for half an hour. This will avoid overloading your public or private sewage system.
2. Water pipes in your home that have been submerged in water may be extremely dirty. Clean the exterior of pipes and faucets with regular household cleaner. Briefly turn on hot and cold water at all faucets to remove dirt that may have settled just inside the faucets. Next, squirt a solution of 50 percent water and 50 percent household bleach into the faucets. Then flush all water pipes as described in Step 3. Never mix bleach with a household cleaner containing ammonia. The mixture can create a deadly chlorine gas.
3. Sequentially flush out all water pipes inside the house. Begin at the faucet nearest the point where the waterline enters the building. This is usually the sink nearest the water meter. Turn on both hot and cold faucets at full blast for three to five minutes. Do not use water until it becomes clear. You may wish to catch water in buckets if you are concerned about overloading your septic tank. Proceed to the next nearest faucet and repeat. Continue until all faucets have been flushed. To avoid wasting hot water, wait until you have flushed all your lines to turn on your hot water heater.
4. Your tap water should now be safe to drink.

### Disinfection of Unsafe Drinking Water

The following procedures will destroy the usual bacteria and other microorganisms that may be present in water obtained from a contaminated public water supply system or from alternate emergency sources. Boiling is best way to disinfect unsafe water. If chemical disinfection is the only option, use of bleach is preferable to iodine.

#### Heat Disinfection (boiling):

1. Strain water through a clean, tightly woven cloth into a clean container to remove any sediment or floating matter.
2. Boil water vigorously for three minutes prior to use for cooking or drinking.
3. Allow water to cool. To improve the taste, add a pinch of salt to each quart of boiled water or try pouring it back and forth from one clean container to another several times.

## Chemical Disinfection:

If boiling is not possible, strain the water through a clean, tightly woven cloth into a clean container to remove any sediment or floating matter and purify it with one of the following chemicals. Choice of chemical is based on availability:

1. Unscented household bleach such as Purex®, Clorox® or other hypochlorite solutions:

Read the label to ensure the solution contains 4 to 6 percent chlorine and determine the amount needed to disinfect each gallon of water from this table:

Available Chlorine	Clear Water	Cloudy Water
4 to 6 percent *	1/8 teaspoon per gallon	1/4 teaspoon per gallon

\*common household bleach

Mix thoroughly by stirring or shaking water in container. Let stand for 30 minutes. A slight chlorine odor should be detectable in the water. Water is safe to use.

2. Iodine: Use USP tincture of iodine. Iodine from the medicine cabinet is suitable. Add two to three drops to each quart of clear water or eight to 10 drops to each quart of cloudy water. Mix and let water stand for 30 minutes before using.

Note: Commercially prepared iodine or chlorine tablets or filtering kits available in drug and sporting goods stores can also be used for disinfecting drinking water. Follow the instructions on the package.

## Purified Water Storage

Water purified by either boiling or chemical disinfection should be stored in clean, noncorrodible, tightly covered containers. Containers suitable for water storage include empty vinegar bottles, soft drink jugs and plastic milk containers that have been thoroughly washed and rinsed with the purified water.

Freezing does not disinfect water; ice cubes must be made from water disinfected as described above.

## If You Have a Private Well

Wells that are destroyed, totally filled with mud or suffered extensive damage must be plugged because they may cause further damage to the groundwater supply. If you want to have the same well redrilled, you will need to contact a permitted well driller.

Wells that are partially damaged or partially filled with mud can be cleaned out by a permitted pump installer or driller. They can also determine if other repairs are necessary.

Wells that are undamaged should be disinfected following the procedures listed below. If muddy water is present, contact a permitted well driller for use and start-up procedures.

A list of permitted drillers is available from the department's Wellhead Protection at 573-368-2165.

## **Private Well Emergency Disinfection Procedures**

1. Pump well until water is clear.
2. Pour one gallon of liquid bleach into the top of the well, making sure to wash down the inside of the well casing with water.
3. Pump chlorinated water through all household water lines until there is a noticeable chlorine odor. If chlorine odor is not detected, add additional chlorine until you smell it.
4. Wash down the interior and the exterior of the well with chlorinated water using a hose.
5. Let chlorinated water stand in the well and in pipes for 24 hours.
6. Run water until the chlorine smell is no longer detectable.
7. Have water tested for bacteria. Any water for temporary use should be boiled for three minutes for drinking until you receive satisfactory test results.
8. If water fails the bacteria test, rechlorinate your well and retest.
9. Before using the water for drinking, you should have two consecutive safe bacteria samples. These samples should be taken at least 48 hours apart.

Caution: Use caution when working on your well to avoid electrical shock from the pump.

## **For More Information**

Missouri Department of Natural Resources

Public Drinking Water Branch

P.O. Box 176

Jefferson City, MO 65102-0176

800-361-4827 or 573-751-5331

[www.dnr.mo.gov/env/wpp/dw-index.htm](http://www.dnr.mo.gov/env/wpp/dw-index.htm)

or your nearest regional office at:

Kansas City Regional Office	816-622-7000
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Northeast Regional Office - Macon	660-385-8000
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Southeast Regional Office - Poplar Bluff	573-840-9750
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Southwest Regional Office - Springfield	417-891-4300
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St. Louis Regional Office	314-416-2960
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A map of regional offices is located on the department's Web Site as

[www.dnr.mo.gov/regions/regions.htm](http://www.dnr.mo.gov/regions/regions.htm)